REMARKS/ARGUMENTS

Claims 1-32 remain this application. Claims 1, 12, 13, 18-27 have been amended.

After entry of the above amendments, claims 1-32 will be pending in this application. Applicants believe that the present application is now in condition for allowance, which prompt and favorable action is respectfully requested.

Claim Rejections – 35 USC § 101

Claim 21 is rejected under 35 USC § 101 for its language choice. Accordingly, Applicants have amended claim 21 to recite the language proposed by the Examiner. Additionally, Applicants have amended claims 22-26 to be consistent with language of newly amended claim 21.

Claim Rejections – 35 USC § 102

Claims 1, 2, 5-8, 12, 13, 15-21, 23-25, 27, 28, 30 and 31 are rejected under 35 USC § 102(b), as allegedly being anticipated by U.S. Patent No. 5,870,378 (hereinafter "Huang"). Applicants respectfully traverse this rejection.

Claim 1 recites a method for recovering data transmitted over a wireless communication channel in a multiple-access OFDM-CDMA system. The method comprises: "processing a received signal to provide data samples; transforming the data samples in the frequency domain in accordance with a particular transformation to provide transformed samples; despreading the transformed samples with one or more sets of despreading coefficients to provide despread samples, wherein each set of despreading coefficients is associated with a respective despreading code that corresponds to a spreading code used to spread data prior to transmission and selected from a set of available spreading codes; combining the despread samples for each time interval to provide a demodulated symbol representative of a transmitted OFDM symbol; and decoding demodulated symbols to provide decoded data."

According to MPEP §2131, "to anticipate a claim, the reference must teach every element of the claim." Applicants respectfully submit that Huang fails to teach or suggest transforming the data samples in the frequency domain prior to despreading the transformed samples.

Referring to page 2 of the Office Action dated April 11, 2008 and Figure 14 of Huang, the Examiner relies upon a pilot despreader 1401 for transforming the data sample. However, referring to Figures 9 and 14 of Huang, the pilot despreading occurs in the time domain; this is apparent from the location of the pilot despreaders and the FWHTs. As shown in Figure 9, the signal 820 coming in from the left is from the pilot despreader, it is despread by a Walsh despreader 901 and eventually arrives at a complex FWHT unit which transforms the data from the time domain into the frequency domain. Similarly, in Figure 12, the input data I/Q passes through a pilot despreader 1201 and a Walsh despreader 1202 before arriving at an FWHT unit (the FWHT unit is implemented in the DSP that connects to the DSP bus, see col. 11, lines 1-4 of Huang).

In contrast, Applicants claim transforming the data samples in the frequency domain prior to despreading. As explained in paragraph [0011] of Applicants' specification as published in US 20040085892: "… the data spreading at a transmitter unit (e.g., a base station or a terminal) is performed in the **frequency domain instead of the time domain**. This may be achieved by spreading each data stream (e.g., for a particular user) with a respective spreading code (selected from a set of available spreading codes) prior to an inverse fast Fourier transform operation to derive OFDM symbols. The frequency domain spreading may be used to combat frequency selective fading and to mitigate inter-symbol interference (ISI) at a receiver unit (emphasis added)." Data spreading in the frequency domain provides benefits in addressing ISI.

For at least this reason, Applicants submit that Huang fails to teach claim 1. Independent claims 12, 13, 18-21 and 27 recite features similar to independent claim 1, described above, and are therefore allowable for at least similar reasons. Because the dependent claims inherit the patentability of their respective independent claims, claims 2-11, 14-17, 22-26, and 28-32 are also allowable over Huang. Applicants request that this rejection be withdrawn and the claims be allowed.

Claim Rejections – 35 USC § 103

Claims 3, 4, 14 and 29 are rejected under 35 USC § 103(a), as allegedly being unpatentable over Huang in view of U.S. Publication No. 20040095907 (hereinafter "Agee"). Claims 9-11, 26 and 32 are rejected under 35 USC § 103(a), as allegedly being unpatentable over

Huang in view of U.S. Patent No. 6,038,450 (hereinafter "Brink"). Applicants respectfully traverse these rejections.

As presented above, Huang fails to teach Applicants' claimed invention. The addition of Agee and/or Brink does not overcome the deficiencies noted with respect to Huang.

With respect to Agee, the Examiner relies on Agee for teaching a Fourier transform and states that a substitution of the FWHT with a Fourier transform is a feasible substitution. See page 2 of the Office Action. Firstly, Applicants direct the Examiner to col. 7, lines 38-46 of Huang which teaches selectively choosing Walsh codes so that a FWHT unit may be used: "We have recognized that by restricting ourselves to properly chosen Walsh codes, we can make use of the construction rule of the Walsh codes and share intermediate correlator results. These intermediate results are stored and used to perform a Fast Walsh-Hadamard Transformation (FWHT). As a result, instead of using N complete complex correlators we only need a single one with a FWHT-postprocessing stage." To substitute the FWHT unit with a Fourier transform would undermine the teachings of Huang as the invention of Huang is centered around selectively choosing Walsh codes so that a FWHT unit may be used. See Summary portion of Huang at col. 1, line 61 – col. 2, line 39 and col. 12, lines 8-38 and the claims in Huang.

Furthermore, even if Huang and Agee were combined, Agee does not teach or suggest transforming the data samples in the frequency domain prior to despreading the transformed samples. Rather, Agee is silent on when transforming occurs.

Were the Examiner to combine Huang and Agee, Huang would be rendered inoperable because if a Fourier transform were placed in the system of Huang before despreading, Huang would not be able to take advantage of selectively choosing Walsh codes. Also, the FWHT of Huang would cease to function (and be redundant) because the samples would already be transformed into the frequency domain.

With respect to Brink, the Examiner relies on Brink for teaching estimating signal quality. Nowhere does Brink teach or suggest transforming data samples in the frequency domain prior to despreading the transformed samples.

Therefore, for at least these reasons, the combination of Huang with Agee and/or Brink does not make obvious the combination recited in dependent claims 3, 4, 9-11, 14, 26, 29 and 32. Applicants request that this rejection be withdrawn and the claims be allowed.

CONCLUSION

Therefore, for at least the reasons presented above with respect to all of the pending claims subsequent to entry of this response, Applicants assert that all claims are patentably distinct from all of the art of record. All objections and rejections having been addressed, it is respectfully submitted that this application is in condition for allowance and a Notice to that effect is earnestly solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Charge Statement: For this application, the Commissioner is hereby authorized to charge any required fees or credit any overpayment to Deposit Account 17-0026.

Respectfully submitted,
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